

## REMARKS

In the current Office Action, the Examiner has dealt with claims 1 to 23 as filed with the original application, as in the previous election requirement. However, in a preliminary amendment mailed March 5, 2004, new claims 24 to 27 were added to the application. The status of these claims was discussed in a telephone interview with the Examiner on January 11, 2005 and the Examiner confirmed that they are part of the application, but were simply overlooked in the Office Action. It was agreed that these claims would be treated as subject to similar prior art rejections at this point, rather than delaying prosecution, and these claims are amended above and discussed below relative to the prior art applied by the Examiner against similar, originally filed claims.

It is noted that claims 3, 4 and 17 to 20 have been withdrawn from consideration as drawn to a non-elected species. It is believed that these claims now depend from allowable generic claims, as noted below, and that they should now be reinstated and considered, under the provisions of 37 CFR 1.142(b).

On page 2 of the Office Action, the Examiner has rejected claims 1,2,5,6,7,8,9,11,12,13,14,15,16,21,22 and 23 as obvious in view of US2004/0078897 of Gladney when combined with Boyles and any one of the German publication, Schneider, or Robinson. In the foregoing amendment, claim 1 has been canceled. The rejection of the remaining listed claims as obvious is hereby traversed, and it is submitted that the invention as now claimed is not shown or suggested by the combined teachings of these references.

In order to establish a *prima facie* case of obviousness using a combination of prior art references, three criteria must be met, as stated in MPEP 2143. First, there must be some suggestion or motivation in the cited references or the prior art as a whole to combine their teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all claim limitations. It is submitted that these criteria are not met by the references applied by the Examiner, as discussed in more detail below.

As noted above, independent claim 1 has now been canceled, and rejected claims 11, 12, 14 and 15 have been rewritten as independent claims, while rejected claim 16 has been amended to distinguish more clearly over the cited references. Amended independent claim 24 is also distinguished from the references cited by the Examiner.

In rejecting claim 1, the features of which are now included in amended independent claims 11, 12 and 14, the Examiner contends that Gladney teaches the basic device while Broyles teaches a similar device with a bore for a leg and the other listed references teach use of conventional expanded rigid foam materials in making bed foundations. This argument is hereby traversed. Gladney teaches a plastic mattress foundation of solid plastic material but does not suggest the use of a plastic foam, let alone an expanded rigid plastic foam material. The corner supports 130 are integrally formed with the foundation in one embodiment (page 3, lines 1 to 2), and are stated to have cross sectional shapes to increase strength, such as X shape, U-shape, D-shape and the like (page 3, lines 11 to 16). As illustrated in Figure 1 and 4, the corner supports, if used, engage over the outside of the lower edge of the foundation.

Broyles describes casters 16 which engage in sockets in separate corner blocks 18 of a bed foundation. This does not provide the corner supports with the desired cross-sectional shapes to increase strength, and there is no suggestion that such an arrangement would perform better than the integrally formed corner supports of Gladney. The corners of Gladney's foundation are open (see Figure 2) and there is nothing in the teachings of Broyles to suggest replacing these open, angled corners with integral solid corner supports or blocks having bores for receiving a support leg. It is therefore submitted that it would not be obvious to modify Gladney's foundation to provide the corner supports as claimed in claims 11, 12 and 14 based on the teachings of Broyles.

As regards the specific material used, Gladney only proposes the use of a conventional solid plastic material, not an expanded rigid plastic foam material. Contrary to the Examiner's statement, the secondary references listed do not teach the use of

such a material in making a bed foundation, i.e. the foundation on which the mattress is directly supported. Schneider is not even concerned with a bed foundation, but describes a dressing tray for a baby, which is a completely different field of art and which has a much lower strength requirement than a mattress foundation for supporting a mattress along with one or two adults for extended periods of time. Robinson is also not concerned with a bed foundation or box spring, but describes a bed base or frame on which a foundation or box spring will be placed. The German reference of Metzeler describes a support platform for a foam mattress. There is nothing in the teachings of these references which suggests any motivation for replacing the material described by Gladney with an expanded rigid plastic foam material.

In addition to the features of original claim 1 which are discussed above, amended independent claims 11, 12 and 14 include other features not suggested by the cited references. Referring to claim 11, none of the cited references suggests a bed foundation with an end panel having horizontal slots for mounting of a head board. In the main reference, Gladney, the headboard 410 of Figure 4 is stated to be removably attached or formed integrally with the foundation, and appears to have legs for engaging in the end channels of the foundation. None of the other references describes a headboard attachment. On page 3, penultimate paragraph, the Examiner comments on the fully horizontal headboard mounting slots of Leskin. However, the slots 58 in Leskin are not in an end panel of a bed foundation, but are instead located in mounting brackets 55 which are welded to the legs at the rear corners of a bed frame. There is nothing in the teachings of this reference to suggest forming horizontal headboard mounting slots in an end wall of a box-like bed foundation as in Gladney, which would be placed on top of the bed frame of Leskin. Gladney has already described a headboard mount which is different from that of claim 11 and which is as good as, if not better than, the arrangement of Leskin. There is, therefore, no motivation suggested by the references to modify Gladney to provide horizontal mounting slots in the foundation end wall.

It is therefore submitted that amended independent claim 11 is clearly not obvious in view of the references cited by the Examiner. It is noted that the Examiner

has to combine at least four separate references in order to produce all of the elements claimed in claim 11, and this in itself is an indication of the non-obviousness of the claimed invention. There is nothing in the teachings of these references which would motivate one skilled in the field to take the isolated features noted in the secondary references and to modify Gladney to incorporate these features, nor is there any suggestion that such modifications would result in any improvement or advantage. The proposed combination of references is therefore not obvious and would not result in the invention claimed in claim 11. Reconsideration and reversal of the rejection of this claim is therefore respectfully requested.

As regards amended independent claim 12, the same comments as stated above apply equally to this claim as regards the features incorporated from claim 1. Additionally, the cited references do not describe or suggest an expanded rigid plastic foam material which is selected from the group consisting of phenolic, urethane, and poly-isocyanate rigid foam. These materials were found by the inventor to have the desired combination of flame retardant properties, compressive strength, shear strength and shear modulus for a bed foundation of the claimed structure, as described in paragraph 0027 on pages 6 to 7 of the present application.

The German reference lists polyurethane rigid foam, polyvinylchloride rigid foam, polystyrol rigid foam or other rigid foams. This group is completely different from the group of foams listed in claim 12. Robinson describes platforms made of closed-cell foamed polyolefin such as a polymer of propylene or polyethylene, and these materials are different from all of the materials described in the group of claim 12. Schneider simply describes solid thermoplastic foam material. Therefore, none of the references suggest the selection of materials defined in the group of claim 12. The prior art does not suggest the desirability of selecting the group listed in claim 12 for use in making the bed foundation, and claim 12 is therefore not obvious in view of these references. Claim 13 depends from claim 12 and is therefore distinguished from the references for the same reasons as claim 12. Reconsideration and reversal of the rejection of claims 12 and 13 is therefore respectfully requested.

Independent claim 14 also includes the features of independent claim 1 which are not suggested by the combined teachings of the references for the reasons stated above. Additionally, the references do not describe or suggest use of an expanded rigid plastic foam material in the density range claimed in claim 14. Although the German reference mentions polyurethane rigid foam for a mattress support, it does not specify or suggest the density range claimed in amended claim 14. The specific density range is selected to provide the desired strength and durability in the foundation, as discussed in paragraph 0027 and 0044 of the application. It is therefore submitted that amended claim 14 is not obvious, and reconsideration and reversal of the rejection of this claim is also respectfully requested.

Amended independent claim 15 is also fully distinguished from the references cited against this claim. None of the cited references describes or suggests a top panel of a foundation for a mattress which has a lower layer of the same foam material as the side and end panels, the lower layer being of a first flexibility, and an upper layer comprising a flexible foam layer of a second flexibility greater than the first flexibility. This is a dual durometer layer construction as described in paragraph 0029 of this application. Since this feature is completely lacking from the cited references, claim 15 is clearly not obvious, and reconsideration and reversal of the rejection of this claim is respectfully requested.

Non-elected claims 3 and 4 have been amended to depend from claim 15, which is an allowable generic claim, and consideration and allowance of these claims in addition to claim 15 is respectfully requested.

Claims 2 and 5 to 10 have been amended to depend from claim 15 and are distinguished from the references for the same reasons as claim 15, and additionally since these claims define other features which are not shown or suggested by the references. Referring to claim 10, although Gladney has small openings in the side walls, the openings extend over only a very small region and would not have any significant weight reduction effect. In fact, in Gladney, weight is reduced by providing ribbing in the top surface of the foundation as well as corrugations in the side walls (see

paragraph 0028), There would therefore be no motivation for one skilled in the field to provide very large openings in the side walls which could be detrimental to the structural rigidity produced by the corrugations or other structurally enhancing formations discussed by Gladney. The Examiner comments that Saputo uses large cutouts, but these are in a knock down foundation, not a one-piece, integrally formed foundation as in Gladney and as claimed in claim 2, from which claim 10 depends via claim 7. There is nothing in the teachings of Saputo which would motivate one skilled in the field to use such large openings in the side walls of Gladney's foundation, particularly since Gladney uses other means (ribbing and corrugations in the side walls to reduce thickness while maintaining strength) to achieve weight reduction while maintaining sufficient structural rigidity. Claim 10 is additionally distinguished from the references for this reason.

Amended independent claim 16 is also fully distinguished from the references. This claim now defines the expanded rigid plastic foam material more specifically, and it is submitted that none of the cited references suggests selection of the plastic foam material from a group consisting of phenolic, urethane, and poly-isocyanate rigid foam for use in a bed foundation. These specific materials are not mentioned in the cited references. As noted above, two of the references do not even describe use of expanded rigid plastic foam materials to make bed foundations, but are instead concerned with a baby changing table and a bed frame, respectively. The group of materials selected for the bed foundation of this invention has the characteristics of light weight, durability, strength and flame retardancy which meet the requirements for a bed foundation and are a significant improvement over prior art bed foundations. There is no suggestion in the prior art of selected this specific group of materials for making a bed foundation, and it is therefore submitted that amended independent claim 16 is not obvious. Reconsideration and reversal of the rejection of this claim is respectfully requested.

Claims 17 to 20 have been withdrawn from consideration as directed to a non-elected invention. However, it is believed that amended claim 16, which is generic, should now be allowable, and it is therefore respectfully requested that claims 17 to 20

be reinstated and considered by the Examiner, under the provisions of 37 CFR 1.142(b).

Claim 23 depends from amended claim 16 and is allowable for the same reasons as claim 16 and, additionally, because the references do not suggest a closed cell foam for a bed foundation

It is submitted that amended independent claim 24 is also distinguished from the references cited by the Examiner. The Examiner's main reference, Gladney, has a top panel with a ribbed top surface 110 to form air spaces and reduce weight in regions where less mechanical support is required (see paragraph 0028). This means that the side edges and end edges of the top surface 110 are castellated or have a series of spaced indentations, as seen in Figure 1. Gladney therefore does not describe or suggest a top panel with straight side and end edges and a flat, uninterrupted upper surface, and the references do not provide any motivation for modifying Gladney in this regard, particularly in view of Gladney's teachings of the desirability of a ribbed upper surface in paragraph 0028.

Gladney also does not suggest a foundation made entirely of expanded rigid plastic foam material, but only describes solid plastic material which by definition cannot be a foam.. Although Schneider and Robinson both use plastic foam materials for their products, these are not foundations for direct support of mattresses, and there is no suggestion in these references that substitution of such materials would improve the foundation described by Gladney which, in fact, is not a candidate for foam manufacturing due to its design configuration. The German reference describes a platform for a mattress but this appears to be of quite different design to that of Gladney, and this reference also provides no motivation for substituting the described hard foam material for the plastic materials described by Gladney.

It is submitted that it would not be obvious to modify Gladney to produce the structure defined in amended claim 24, or to use the foam material defined in this claim to make the foundation, based on the teachings of Gladney or any other cited reference. There is no motivation for such a modification of Gladney suggested by the teachings of

the references. It is therefore believed that amended claim 24 should be allowable over the references cited by the Examiner, and notice to this effect is respectfully requested.

Claims 25 to 28 depend from amended claim 24 and are distinguished from the references for the same reasons as claim 24, and additionally since these claims define other features not suggested by the references. As regards claim 26, the references do not suggest a foundation formed from closed cell polyurethane rigid foam material. Although polyurethane rigid foam is one of the materials mentioned in the German reference, there is no suggestion that this must be a closed cell foam. As noted above, the other two references cited for describing use of rigid plastic foam materials do not describe foundations for mattress support, and there would therefore be no reason for one skilled in the field to use the materials described in these references in a foundation. Claim 26 is additionally distinguished from the references for this reason.

Referring to new claim 28, the side and end panels in Gladney do not have substantially flat outer faces. Instead, the outer faces of the side and end panels are corrugated for structural integrity, as stated in paragraph 0028. In view of this teaching, any modification of this reference to provide flat or planar outer faces would not be obvious, since it would be contrary to Gladney's stated objective of providing non-planar shapes to the side walls to increase structural integrity. It is therefore submitted that claim 28 is clearly not obvious in view of the references.

It is submitted that claims 24 to 28 are also distinguished from the references cited in the current Office Action and are allowable over these references and all other references of record.

It is believed that the foregoing amendment and argument deal with all outstanding objections and rejections and that all of the claims now remaining in this application, specifically claims 2 to 20 and 23 to 28, should now be in order for allowance. Early notice to this effect is earnestly solicited. If there are any outstanding objections or rejections which could be dealt with by means of a telephone interview, the Examiner is encouraged to contact the undersigned representative.

Respectfully submitted,

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